

## DEEP GRADATIONAL LOAM OVER WEATHERED ROCK

**General Description:** *Clay loam with variable ironstone gravel, grading to a brown clay, kaolinitic with depth*

**Landform:** Gently undulating rises.

**Substrate:** Deeply weathered kaolinized basement rock.

**Vegetation:**



**Type Site:** Site No.: CK014A

1:50,000 sheet: 6326-2 (Seddon)

Hundred: Seddon

Annual rainfall: 600 mm

Sampling date: 24/05/95

Landform: Lower slope of 2%.

Surface: Firm with no stones

### Soil Description:

<i>Depth (cm)</i>	<i>Description</i>
0-8	Very dark greyish brown soft massive light fine sandy clay loam with 2-10% ironstone nodules (6-20 mm). Abrupt to:
8-11	Dark greyish brown soft massive clay loam with 20-50% ironstone nodules (6-20 mm). Abrupt to:
11-21	Dark yellowish brown hard light medium clay with moderate fine angular blocky structure. Clear to:
21-40	Dark yellowish brown, olive grey and red firm light medium clay with moderate angular blocky structure. Gradual to:
40-63	Dark yellowish brown, olive grey and red firm light medium clay with weak angular blocky structure. Gradual to:
63-110	Olive grey, dark yellowish brown and red firm heavy clay with strong coarse prismatic structure on rock at 110 cm.
110-140	Weathered kaolinized rock.



**Classification:** Sodic, Eutrophic, Brown Dermosol; thin, slightly gravelly, clay loamy / clayey, deep

### Summary of Properties

<b>Drainage</b>	Moderately well drained. The soil may remain wet for up to a week following heavy or prolonged rainfall.
<b>Fertility</b>	Natural fertility is moderate, as indicated by the exchangeable cation data. Surface ironstone ties up phosphate, but levels of phosphorus and other tested elements are satisfactory. High surface organic carbon concentrations boost nutrient retention capacity.
<b>pH</b>	Acidic throughout.
<b>Rooting depth</b>	110 cm in pit, but few roots below 40 cm.
<b>Barriers to root growth</b>	
<b>Physical:</b>	The clayey subsoil restricts root growth to some extent. Rock at 110 cm prevents deeper growth.
<b>Chemical:</b>	Acidity and reactive iron induced nutrient deficiencies and possibly aluminium toxicity may limit root growth.
<b>Water holding capacity</b>	Approximately 90 mm in the root zone.
<b>Seedling emergence:</b>	Satisfactory, provided that surface organic matter levels are maintained.
<b>Workability:</b>	Firm surface is easily worked, but ironstone gravel is abrasive.
<b>Erosion Potential</b>	
<b>Water:</b>	Low.
<b>Wind:</b>	Low.

### Laboratory Data

Depth cm	pH H <sub>2</sub> O	pH CaCl <sub>2</sub>	CO <sub>3</sub> %	EC1:5 dS/m	ECe dS/m	Org.C %	Avail. P mg/kg	Avail. K mg/kg	SO <sub>4</sub> -S mg/kg	Boron mg/kg	Trace Elements mg/kg (DTPA)			CEC cmol (+)/kg	Exchangeable Cations cmol(+)/kg				ESP	Ext Al mg/kg	React Fe mg/kg
											Cu	Mn	Zn		Ca	Mg	Na	K			
Paddock	5.3	4.6	0	0.24	1.4	4.1	23	120	23	3.5	0.55	1.8	2.4	7.7	6.15	1.63	0.25	0.31	3.2	1.6	2380
											*1.0	-	*2.8								
0-8	5.6	4.7	0	0.23	1.2	4.4	36	250	14	1.2	-	-	-	9.9	7.31	2.01	0.26	0.65	2.6	1.8	2460
8-11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11-21	6.2	5.3	0	0.11	0.4	1.2	4	190	6.3	2.1	-	-	-	14.5	6.21	7.04	0.90	0.68	6.2	1.7	1460
21-40	6.4	5.7	0	0.11	0.3	0.6	3	210	25	1.5	-	-	-	14.3	6.13	7.12	0.92	0.67	6.4	<1	840
40-63	6.4	5.9	0	0.10	0.3	0.2	2	190	40	1.0	-	-	-	12.8	3.34	7.34	0.88	0.59	6.9	<1	540
63-110	5.6	4.6	0	0.12	0.4	0.3	2	200	28	2.1	-	-	-	18.2	3.05	11.6	1.76	0.55	9.7	<1	970

**Note:** Paddock sample bulked from cores (0-10 cm) taken around the pit.

\* EDTA trace element analyses for paddock sample.

CEC (cation exchange capacity) is a measure of the soil's capacity to store and release major nutrient elements.

ESP (exchangeable sodium percentage) is derived by dividing the exchangeable sodium value by the CEC.